
OBSERVATIONS
ON
Mr. FODEN's MINERAL SUBSTITUTE.

BY RICHARD PEARSON, M.D.

FROM the conversation which passed in the HOUSE of COMMONS on the 13th of June last, relative to Mr. FODEN's Petition for Parliamentary assistance, to enable him to carry on and bring to perfection his discovery of a Mineral Substitute for Wheaten Flour; it was understood by most persons out of the House, and, I imagine, by every Member in the House, that this substitute was to be used (in lieu of the common paste or size prepared from flour) in the calico and other similar manufactories, *and to be used for such purposes only*: yet it appears from a letter printed in the St. James's Chronicle of the 5th instant, with Mr. Foden's signature, that his intention is to apply this substitute to the sustenance of man*!

* *The following is a copy of Mr. Foden's letter:*

TO THE EDITOR OF THE ST. JAMES'S CHRONICLE.

SIR,

OBSERVING your paper of the 1st instant, I see an attack on my discovery of a Substitute for Flour, signed R. B. I beg leave to inform you, this important discovery has been submitted to Parliament, whose sanction and protection it has received, it being fully tried and approved by the first Chemists and Manufacturers of the nation; and, though by its simplicity it may not astonish the eye, it will prove a greater blessing to mankind, than any other recent discovery.— To save immense quantity of Flour, to provide a cheap and nutritive food for *Man and Beast*, is the object and result of this invention, and certainly entitles the Author to that reward and assistance, which a Commercial Nation will ever shew to merit and genius.

Coventry, July 3, 1800.

THOMAS FODEN.

I presume this is extending its application far beyond the bounds which Parliament intended. In this view, it is a project wherein the health, indeed the very existence, of several millions of people are concerned; but it cannot be supposed, that, if Parliament had seen it in this light, it would have given its sanction and support, before it had received the opinion of a Committee of Physicians, appointed to make enquiries concerning its fitness and safety. I will venture to assert, that the report of such a Committee would have strongly discountenanced the employment of this substance as an article of food.

Yet Mr. FODEN avows it to be one of his objects to make his invention applicable to the support of "man and beast,"—these are his own words. This being the case, I shall take the liberty of stepping forward in my medical character, and of representing to those who have power to interfere in this business, the evil consequences that must result to the community, if this or any other *mineral substance is suffered to come into general use (whatever be the farinaceous matter with which it is combined) as an article of food.* In so doing, I declare I am actuated by no other motive but that of serving my fellow-creatures. I have no personal acquaintance with Mr. FODEN, nor ever had any concern whatever with him; I cannot therefore harbour any enmity towards him: on the contrary, I admire his ingenuity, and I rejoice at his success and well-merited reward, *so long as his efforts and views are directed and confined to their proper object;* but when, not content with its application to the arts, Mr. FODEN aims at extending his invention to the sustenance of man, he then appears in a very different light; we then behold him entertaining ideas which are extravagant and chimerical, and projecting experiments which might be productive of the most serious consequences, and which therefore ought to be checked.

The substance which Mr. FODEN proposes (when combined with a certain farinaceous material) for alimentary purposes, is *gypsum*; a fossil or earthy body, which, indeed, is not unpalatable, and which is *apparently* of a mild and un-

injurious nature. It is known to consist of calcareous earth and vitriolic acid. Plaster of Paris is prepared from it, and some kinds of mortar.

I have remarked, that it is not unpalatable. This is one recommendation in its favor; but in a substance which is intended to be employed for the support of life, we should look for other and more essential properties. Such a substance should be *digestible* and *nutritious*. Now, the substance under consideration, is destitute of both these requisites: it is perfectly indigestible; it yields not a particle of chyle; it cannot be subdued or assimilated to the nature of the animal fluids; in other words, it is not possible for it to contribute, in any degree whatever, to the work of nutrition. But this is not all. Though inodorous and insipid, it is only *apparently* mild; when taken into the stomach in any considerable quantity, it produces spasms, obstructions, inflammations, mortifications, and death*. *Gmelin* (a celebrated Professor in the University of Gottingen, and Author of a valuable work on Poisons) mentions several cases of death occasioned by the swallowing of gypsum; and, if there were no other facts of this nature upon record, the loss of a whole army under one of the German Emperors (Conrad the III^d.) would afford a sufficient proof of its deleterious effects.

From these observations we would infer, *that all attempts to prepare alimentary compositions with any MINERAL substance whatever should be strictly forbidden*: and, that, as there is reason to suspect, that either gypsum or some other mineral substance enters, not only into Mr. FODEN's paste or size for certain manufactories, but likewise into the material which he proposes as a cheap food for man; it is fit and requisite that proper persons (persons well versed in chemistry and medicine) be immediately appointed to investigate the nature of this alimentary material; to the end that, if it shall be found to contain any mineral ingredient,

* Nihil magis funestum. Odore & sapore destituitur—ventriculum destruit, tum liquida exfugendo, tum obturando vasa resorbentia. *Boerhaave*, Prælect. Acad. Tom. VI. p. 390.

the employment of it *as an article of food*, be prohibited and condemned under the severest penalties*. In this event, Mr. FODEN's invention, as applicable to certain manufactories, will lose none of its value, and he will still have the justest claim to the thanks and reward of the nation.

* It may be said that no chemical analysis is necessary, because Mr. FODEN can tell, or has told, what the material, simple or compound, is. Then, it only remains to be ascertained, whether the material is or is not salutary to man.—I have heard that this cheap nutriment is the residue of potatoes (or other farinaceous substance) after the separation of the mucilaginous principle, which is combined with the gypsum in the paste or size, so admirably suited to the calico and other manufactures. Now, if it be *the mere potatoe-residue, without any extraneous admixture*, it is, in reality, a species of flour or farina, and not a *substitute* for flour, consequently no invention or discovery. Yet it is held up as such. I am therefore constrained (and so must every person who thinks on the subject) to suspect *there is some other substance mixed with this farinaceous residue*. Till I know to the contrary, I shall presume, that, in the preparation of the aforesaid paste or size, the gypsum and potatoes are ground together, and that afterwards a very considerable proportion of the potatoe pulp is separated from the gypsum, and constitutes the alimentary material in question. If this be the case, it is scarcely possible that some particles of the gypsum should not be entangled and retained [though Mr. FODEN may not be aware of it—which is the reason why disinterested persons should be employed to investigate the whole process] in this residuum. Now, let the proportion of the retained mineral be ever so small, yet, if it be present more or less in a substance which is made a constant and principal article of food, the aggregate quantity taken into the stomach will soon be so considerable, as to produce all those bad effects which have been enumerated above.

*Dr Pearson's Observations
on Mr. Foden's Invention
of substitute - which he
conceives to be a composition
of gypsum
with a certain
farinaceous
material*